

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Backes	
Application No. 10/781458	Group Art Unit: 2665
Filed: 02/18/2004	Examiner: Philpott
Title: Apparatus for Associating Access Points with Stations in a Wireless Network	
Attorney Docket No.: 160-052	

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Commissioner for Patents  
P.O. Box 1450  
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**APPELLANT'S AMENDED BRIEF PURSUANT TO 37 C.F.R. § 1.192**

This Amended Appellant's brief is submitted in response to the Notice of Non-Compliant Brief dated 22 February 2007, and in accordance with the Notice of Appeal filed 14 November 2006 with the original brief.

**I. Real Party in Interest**

The real party in interest is AutoCell Laboratories, Inc.

**II. Related Appeals and Interferences**

Appellants are not aware of any appeals or interferences that are related to the present case.

**III. Status of the Claims**

Claims 1-6 are pending in this application. All of the pending claims were rejected in the final office action dated October 12, 2006. Claims 1 and 6 were previously amended. The rejections of independent claims 1 and 6 are the subject of this appeal. The current state of the claims is shown in Appendix A.

**IV. Status of Amendments**

An amendment was filed April 10, 2006, in which claims 1 and 6 were amended. That Amendment was entered by the Examiner and considered in the preparation of the Final Office Action dated October 12, 2006.

**V. Summary of Claimed Subject Matter**

The subject matter of claims 1 and 6 is management of how an access point (“AP”) becomes associated with a station (“STA”) in a wireless environment, i.e., station migration. The terms “station” and “access point” are well known in the networking art. A station is a mobile wireless terminal device

such as a PDA, cell phone or notebook computer. Access points are fixed location devices which provide network access to stations. In particular, a station obtains network access through a first access point with which it is associated, and may migrate to a second access point by dis-associating with the first access point and associating with the second access point. The invention recited in claims 1 and 6 is logic executed by an access point, including receiving bid messages from stations, tracking parameters related to the stations, and using the parameters to select a bid message, and thereby select a station to permit to become associated with the access point. Steps executed by stations in order to become associated with an access point are not limitations of the claims.

The claimed access point apparatus is described in the Specification at pp. 41-43 in section “2.b AP Auction.” The description of collecting bid messages during the “Auction Interval” of steps (340, 342, Figure 21), described in the Specification at the bottom of page 41, supports the limitation “logic for receiving messages from stations indicative of a request to associate with the access point” from claim 1, and the corresponding limitation of claim 6. The treatment and use of biased distance delta described in the last full paragraph of page 41 and the top of page 42 supports the limitation “logic for keeping track of one or more parameters related to the stations from which the messages have been received in the network”<sup>1</sup> from claim 1, and the corresponding limitation of claim 6. The claim limitation “logic for evaluating the one or more parameters to produce an evaluation; and logic for selecting one of the stations from which the message was received to become associated with the access point based upon the evaluation”

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<sup>1</sup> See 4.c.2 Biased Distance Calculation at pp. 55-57 for an explanation of biased distance calculation

from claim 1, and corresponding limitations from claim 6, are supported by the second full paragraph on page 42, including “the AP 12 selects the bid entries with the highest biased distance delta values, up to acceptsPerAuction entries.”<sup>2</sup>

Support for the limitation in claim 6 “wherein a parameter may be the number of stations associated with the access point, and wherein another parameter may be the distance of a station from the access point” is in the Specification at pages 41, 42, 55 and 56. In one embodiment, the “goal is to have STAs 16 associate to their nearest AP 12 while taking loading (the sum of the individual loads of the STAs 16 already associated to the AP 12) into account.”<sup>3</sup> In order to do this, the “bid message contains the value of the difference between the biased distance from the STA 16 to the destination AP 12 and the biased distance to the STA 16’s current AP,” which is “called the biased distance delta.”<sup>4</sup> As described in section 4.c.2 *Biased distance calculation*, “[u]sing the my\_load\_factor to the AP 12, the load\_factor currently on the AP 12 (received from Announce messages) and the corrected distance to the AP 12, the STA 16 calculates a biased\_distance value to account for loading on the prospective AP 12 in comparison to the loading on the STA 16’s current AP, as shown in Figure 29.”<sup>5</sup> A specific algorithm for the calculation is provided at the bottom of page 55. As described at page 42, second full paragraph, “[t]he AP 12 selects the bid entries with the highest biased distance delta values,” i.e., as a function of a distance parameter and a load parameter.

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<sup>2</sup> See also the description of distance calculation at pp. 38-39

<sup>3</sup> Specification, page 41, first full paragraph

<sup>4</sup> Id. at page 41, second full paragraph

<sup>5</sup> Id. at page 55, second full paragraph

**VI. Grounds of Rejection to be Reviewed on Appeal**

Claims 1 and 6 were rejected under 35 U.S.C. 103(a) over U.S. Patent Application Publication No. US 2004/0054767 A1 (“Karaoguz”), in view of U.S. Patent No. 6,580,700 (“Pinard”).

**VII. Argument**

**Claims 1 and 6 distinguish the combination of Karaoguz and Pinard because the selection is by an access point, in response to a request from a station, for controlling migration of stations, i.e., association.**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claims 1 and 6 distinguish the combination of Karaoguz and Pinard because the station is selected by the access point, in response to a request from the station, and based on the tracked and evaluated parameters. The Examiner concedes that Karaoguz fails to teach receiving messages from the stations

indicative of a request to associate with the access point and selecting thereafter one of the stations by the access point,<sup>6</sup> but asserts that Pinard teaches that limitation. What Pinard actually teaches is the reverse, i.e., selection of an access point by a station. In the Abstract, for example, Pinard states “the **mobile units** are arranged to periodically scan for and identify the most eligible access point for association at the highest data rate.” (emphasis added) Note also the step in Fig. 5 captioned “SELECT AP WITH HIGHEST RSSI,” and the corresponding text in columns 5 and 6.

While techniques such as Pinard’s for stations to select an access point (“AP”) are necessary, e.g., to determine whether to bid an access point, that is not what is recited in the claims in this application. Claims 1 and 6 describe what the access point does **after** the stations have submitted their bids to the access point. In particular, claim 1 recites “logic for **selecting one of the stations from which the message was received** to become associated with the access point based upon the evaluation.” (emphasis added) Similarly, claim 6 recites “logic for receiving messages from stations indicative of a request to associate with the access point; ... logic for selecting one of the stations from which the message was received to become associated with the access point based upon the evaluation.” Selection of an access point by a station is substantially different from selection of a station by an access point because stations tend to move, whereas access point are stationary, and a single access point supports multiple stations, and stations

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<sup>6</sup> Final OA, top of page 4

migrate between access points.<sup>7</sup> Since Pinard fails to teach any technique for an access point to select a station, claims 1 and 6 distinguish the cited combination.

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Accordingly, claims 2-5 are allowable for the same reasons as claims 1 and 6.

### **VIII. Conclusion**

Appellants submit that the rejections of the present claims under 35 U.S.C. 103 are improper for at least the reasons set forth above. Appellants accordingly request that the rejections be withdrawn and the case put forward for allowance.

Respectfully submitted,

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Docket No. 160-052

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<sup>7</sup> Selection of an AP by a STA is discussed in the Specification at pp. 50-53 under the heading “4.c STA Bidding”

*Appendix A - Claims*

1. (previously presented) Apparatus in an access point in a wireless communications environment including multiple access points and stations, wherein stations gain network access by associating with one or more of the access points, comprising:

logic for receiving messages from stations indicative of a request to associate with the access point;

logic for keeping track of one or more parameters related to the stations from which the messages have been received in the network;

logic for evaluating the one or more parameters to produce an evaluation; and

logic for selecting one of the stations from which the message was received to become associated with the access point based upon the evaluation.

2. (original) The apparatus of claim 1 wherein the logic for keeping track includes logic for receiving messages from stations, and wherein the messages include at least some of the one or more parameters.

3. (original) The apparatus of claim 2 wherein a parameter is the number of stations associated with the access point.

4. (previously presented) The apparatus of claim 2 wherein a parameter is the distance of a station from the access point.



5. (original) The apparatus of claim 4 wherein at least some of the one or more parameters are stored in a table.

6. (previously presented) Apparatus in an access point in a wireless communications environment including multiple access points and stations, wherein stations gain network access by associating with one or more of the access points, comprising:

logic for receiving messages from stations indicative of a request to associate with the access point;

logic for keeping track of one or more parameters related to stations from which the messages have been received in the network, wherein the messages include at least some of the one or more parameters;

wherein a parameter may be the number of stations associated with the access point, and wherein another parameter may be the distance of a station from the access point;

logic for evaluating the one or more parameters to produce an evaluation; and

logic for selecting one of the stations from which the message was received to become associated with the access point based upon the evaluation.

***Appendix B - Evidence Submitted***

None.

*Appendix C - Related Proceedings*

None.